

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A substrate bevel cleaning chamber, comprising:
a chamber body defining a processing volume;
a rotatable substrate support member positioned in a lower portion of the processing volume;

at least three cooperatively rotatable substrate centering posts radially positioned around the rotatable substrate support member such that the posts remain stationary during rotation of the substrate support member, wherein each of the cooperatively rotatable centering posts comprise:

a vertical shaft member rotatable about its central axis;

a cap member positioned on a distal terminating end of the shaft member;

a raised central substrate support portion positioned at a rotational center of the cap member, wherein the rotational center of the cap member is substantially aligned with the central axis of the shaft member; and

a substrate centering member extending upwardly from the cap member and being positioned away from the rotational center of the cap member; and

a fluid dispensing nozzle movably positioned to dispense a cleaning fluid onto the top surface of a substrate positioned on the substrate support member.

2. (Canceled)

3. (Currently Amended) The cleaning chamber of claim [[2]] 1, further comprising a substrate centering actuation mechanism, comprising:

at least three rotatable centering post receiving receptacles;

a linkage assembly connecting each of the at least three rotatable centering post receiving receptacles; and

a reduced friction actuator in communication with the linkage.

4. (Original) The cleaning chamber of claim 3, wherein the reduced friction actuator comprises an air actuated piston assembly positioned in a reduced friction cylinder.

5. (Original) The cleaning chamber of claim 3, wherein the linkage assembly is configured to cooperatively rotate the at least three centering post receiving receptacles.
6. (Currently Amended) The cleaning chamber of claim 1, wherein the fluid dispensing nozzle ~~comprises a~~ comprises a first pivotally mounted fluid dispensing nozzle in fluid communication with an etchant solution source and a second fluid dispensing nozzle in fluid communication with a rinsing solution source.
7. (Previously Presented) The cleaning chamber of claim 1, comprising a backside fluid dispensing nozzle.
8. (Original) The cleaning chamber of claim 7, wherein the backside fluid dispensing nozzle comprises a cleaning solution dispensing nozzle and a rinsing solution dispensing nozzle.
9. (Currently Amended) The cleaning chamber of claim ~~[[2]]~~ 1, wherein the cooperatively rotatable substrate centering ~~members~~ posts are in communication with an actuator mechanism configured to simultaneously rotate each of the centering ~~members~~ posts.
10. (Original) The cleaning chamber of claim 3, wherein the reduced friction actuator and the linkage assembly are configured to rotate the substrate centering posts to engage a bevel of a substrate and center the substrate between the respective centering posts.
11. (Original) The cleaning chamber of claim 1, wherein the substrate centering posts are vertically movable between a loading position and a processing position.
- 12-29. (Canceled)

30. (New) A substrate bevel cleaning chamber, comprising:
- a chamber body defining a processing volume;
 - a rotatable substrate support member positioned in a lower portion of the processing volume;
 - at least three cooperatively rotatable substrate centering posts radially positioned around the rotatable substrate support member such that the posts remain stationary during rotation of the substrate support member, wherein each of the cooperatively rotatable centering posts comprise:
 - a vertical shaft member rotatable about its central axis;
 - a cap member positioned on a distal terminating end of the shaft member;
 - a raised central substrate support portion positioned at a rotational center of the cap member, wherein the rotational center of the cap member is substantially aligned with the central axis of the shaft member; and
 - a substrate centering member extending upwardly from the cap member and being positioned away from the rotational center of the cap member, wherein the simultaneous rotation of each vertical shaft member about its central axis centers a substrate disposed on the raised central substrate support portion of each of the cap members over the rotatable substrate support member; and
 - a fluid dispensing nozzle movably positioned to dispense a cleaning fluid onto the top surface of a substrate positioned on the substrate support member.

31. (New) The cleaning chamber of claim 30, further comprising a substrate centering actuation mechanism, comprising:
- at least three rotatable centering post receiving receptacles;
 - a linkage assembly connecting each of the at least three rotatable centering post receiving receptacles; and
 - a reduced friction actuator in communication with the linkage.

32. (New) The cleaning chamber of claim 31, wherein the linkage assembly is configured to cooperatively rotate the at least three centering post receiving receptacles.

33. (New) The cleaning chamber of claim 30, wherein the fluid dispensing nozzle comprises a first pivotally mounted fluid dispensing nozzle in fluid communication with an etchant solution source and a second fluid dispensing nozzle in fluid communication with a rinsing solution source.

34. (New) The cleaning chamber of claim 30, comprising a backside fluid dispensing nozzle.

35. (New) The cleaning chamber of claim 34, wherein the backside fluid dispensing nozzle comprises a cleaning solution dispensing nozzle and a rinsing solution dispensing nozzle.

36. (New) The cleaning chamber of claim 30, wherein the cooperatively rotatable substrate centering posts are in communication with an actuator mechanism configured to simultaneously rotate each of the centering posts.

37. (New) The cleaning chamber of claim 30, wherein the substrate centering posts are vertically movable between a loading position and a processing position.

38. (New) A substrate bevel cleaning chamber, comprising:

- a chamber body defining a processing volume;

- a rotatable substrate support member positioned in a lower portion of the processing volume;

- at least three cooperatively rotatable substrate centering posts radially positioned around the rotatable substrate support member such that the posts remain stationary during rotation of the substrate support member, wherein each of the cooperatively rotatable centering posts comprise:

- a vertical shaft member rotatable about its central axis;

- a cap member positioned on a distal terminating end of the shaft member;

a sleeve member engaged with the vertical shaft member and the cap member to form a fluid seal;

a raised central substrate support portion positioned at a rotational center of the cap member, wherein the rotational center of the cap member is substantially aligned with the central axis of the shaft member; and

a substrate centering member extending upwardly from the cap member and being positioned away from the rotational center of the cap member; and

a fluid dispensing nozzle movably positioned to dispense a cleaning fluid onto the top surface of a substrate positioned on the substrate support member.

39. (New) The cleaning chamber of claim 38, further comprising a substrate centering actuation mechanism, comprising:

at least three rotatable centering post receiving receptacles;

a linkage assembly connecting each of the at least three rotatable centering post receiving receptacles; and

a reduced friction actuator in communication with the linkage.

40. (New) The cleaning chamber of claim 39, wherein the linkage assembly is configured to cooperatively rotate the at least three centering post receiving receptacles.

41. (New) The cleaning chamber of claim 38, wherein the fluid dispensing nozzle comprises a first pivotally mounted fluid dispensing nozzle in fluid communication with an etchant solution source and a second fluid dispensing nozzle in fluid communication with a rinsing solution source.

42. (New) The cleaning chamber of claim 39, comprising a backside fluid dispensing nozzle.

43. (New) The cleaning chamber of claim 42, wherein the backside fluid dispensing nozzle comprises a cleaning solution dispensing nozzle and a rinsing solution dispensing nozzle.

43. (New) The cleaning chamber of claim 42, wherein the backside fluid dispensing nozzle comprises a cleaning solution dispensing nozzle and a rinsing solution dispensing nozzle.
44. (New) The cleaning chamber of claim 38, wherein the cooperatively rotatable substrate centering posts are in communication with an actuator mechanism configured to simultaneously rotate each of the centering posts.
45. (New) The cleaning chamber of claim 38, wherein the substrate centering posts are vertically movable between a loading position and a processing position.